

Serial No.: 10/707,331
Confirmation No.: 1330
Applicant: JONSSON, Bertil
Atty. Ref.: 07589.0139.PCUS00

REMARKS

IN RESPONSE TO THE OFFICE ACTION:

Discussion of differences between the present invention and the references includes a table providing requirements of claims of the present invention and a summary of teachings of Stockton (U.S. 3,595,016); Kronogard (U.S. 4,326,375) and Bagenskii (S.U. 1,815,368) as follows:

The Claim Recitations
Compared to the Teachings of the References

Claims Requirements of the Present Invention	Teachings of the References
<p>Claim 1 recites “a transmission including a planetary gear drive with a fixed planet carrier and an arrangement for driving at least one auxiliary unit, said fixed planet carrier being stationarily arranged relative to a housing of said transmission;”</p> <p>Claim 1 also recites “said at least one auxiliary unit being operatively connected to a planet wheel shaft forming part of the transmission.” In the present context, the operative connection signifies that the driving force to the auxiliary unit passes via the planet wheel shaft.</p>	<p>None of the references of Stockton; Kronogard and Bagenskii teach a planetary transmission that includes a fixed planet carrier that is stationarily arranged relative to a housing of said transmission.</p> <p>The references are silent regarding an auxiliary unit operatively connected to a planet wheel shaft.</p>

REJECTION UNDER 35 U.S.C. § 102:

The Office Action indicated rejection of claims 1, 3 - 4, 7 and 8 of the present invention under 35 U.S.C. §102(b) as being anticipated by Stockton (U.S. 3, 595,016). The statement of rejection is included below for convenient reference:

As to claims 1 and 8, Stockton discloses a gas turbine arrangement having a planetary transmission (206) with a fixed carrier (fixed to planet shaft 216), an arrangement for driving an auxiliary unit (226) wherein the auxiliary is **operatively connected to the planet wheel shaft through gear (222)**.

In order to forward examination of the present application, applicant wishes to draw the Examiner's attention to several key aspects of the present application, including claim 1, Figure 2 and paragraphs [0019] - [0023] as published in U.S. 2004/0106486A1. Claim 1 recites:

"a transmission (1) including a planetary gear drive with fixed planet carrier, and an arrangement for driving at least one auxiliary unit (12), said fixed planet carrier being stationarily arranged relative to a casing (15) of said transmission (1);

 said at least one auxiliary unit (12) being operatively connected to a planet wheel shaft (10) forming part of the transmission (1).

Reference numerals have been included in the above-cited portions of claim 1 to draw attention to the related aspects shown in Figure 2. Comparison of the portion of Figure 2 with the description of paragraphs [0019] to [0023] of the published application further clarifies the claimed subject matter. Clarification is given due to the perception that the output shaft (9) may have been mistaken for the planet wheel shaft (10) that represents the element recited in claim 1 of the present invention. The references of Stockton, Kronogard and Bagenskii cited by the Examiner teach auxiliary units driven by output shafts resembling the planetary gearbox output shaft (9) shown between the transmission (1) and the generator (35) in Figure 1 of the present application.

It is possible that some misunderstanding occurred because the use of a gas turbine-driven electricity generator provides the example used to describe the invention. In this case the generator may have been seen as the auxiliary unit, but review of paragraph [0004] of the published application confirms that a generator was not included as an auxiliary unit. As indicated in Figure 2, the planetary gearbox output shaft (9) drives the generator (35), while a shaft (14) formed as an extension to the planet wheel shaft (10) supplies the driving force for an auxiliary unit (12) selected from a group consisting of an oil pump, a fuel pump, a starter motor, a rotary oil separator and a compressor. The rate of revolution of the planet wheel shaft (10) depends on the characteristics of the larger planet wheel (4), while the rate of revolution of the output shaft (9) depends upon the characteristics of the planetary transmission unit (1). Any reference that uses the main output shaft of a transmission will not meet the limitations of a "fixed planet carrier" and an auxiliary unit connected to "a planet wheel shaft" according to claim 1 of the present invention.

The following discussion provides evidence that Stockton fails to satisfy the requirements of an anticipating reference since it does not teach or inherently describe all of the features required by claims 1 and 8 of the present invention.

After considering the broadest possible scope of the reference, Applicant disagrees that Stockton teaches all the limitations of claim 1 and claim 8, particularly regarding the limitation of a planetary transmission with a fixed carrier that is stationary relative to a casing of the transmission. Most planetary transmission systems include planetary wheel carriers that move, normally with rotational movement, during operation of the transmission. As recited in the claims, the present invention uses a fixed planetary carrier, which is represented in the Figures by bearings 11a and 11b that are fixed relative to the transmission casing 15 and that hold the shaft 10 used for supporting the planetary gears 5, 6. In the illustration, the carrier is fixed to the housing or casing, and hence the characterization as being a fixed planet carrier.

The following description, at column 4, lines 43 to 54 of Stockton, informs that:

"[w]hen the unit 200 is acting as a driving motor, armature torque is delivered from the shaft to the carrier 204 and then directly through the overrunning clutch 218 to the gear 220. This drives the gasifier drive gear 222. After the gas turbine powerplant is operating, the direction of the torque delivered through the gearing 206 is reversed. Under these conditions, the gear 220 acts as a power input element and the overrunning clutch 218 freewheels. The overrunning brake 212 anchors the ring gear 208 under these conditions and a speed reduction occurs as the sun gear 214 drives the carrier 204. Carrier 204, in turn drives armature 202 for the unit 200 which now acts as an alternator or voltage generator."

In this description, Stockton indicates that the revolution rate of the drive armature (shaft) 202 depends upon the characteristics of the planetary gearbox. Based upon Figure 3 of the reference, the planet wheel shafts function essentially as axles to hold planetary pinions 210 in the planet carrier 204. These "axles" neither rotate nor transmit a drive force to any component; i.e. no auxiliaries are driven by the planet wheel shafts illustrated by Stockton. As suggested above, the armature 202 has been viewed as representing a gear wheel shaft according to the present invention. It will be appreciated that Stockton's armature 202 resembles gearbox output shaft (9) rather than gear wheel shaft (10) that provides the subject matter for claim 1 and claim 8 of the present invention.

In view of the explanation of differences between the present claims and the teachings of Stockton, Applicant requests reconsideration and withdrawal of the rejection of claims 1 and 8 under 35 U.S.C. §102(b).

Rejection of claims 3 - 4 and 7 of the present invention should likewise be withdrawn because these claims depend from claim 1, which has been shown to be allowable over the reference of Stockton.

In further rejecting claims 1 - 3 and 6 - 8 under 35 U.S.C. §102(b) the Office Action applied Kronogard (U.S. 4,326,375) as an anticipating reference. The following statement from the Office Action, included for convenient reference, suggests that situation is similar to that identified above for the reference of Stockton:

"As to claims 1 and 8, Kronogard discloses a gas turbine transmission plant having a planetary transmission with a fixed carrier (24 fixed to shaft 26), an arrangement for driving at least one auxiliary unit (22 is considered auxiliary, column 2, line 67 to column 3, line 1) wherein the unit is operatively connected to shaft 26 of the planet carrier."

According to the reference, numeral 24 identifies a planetary gear wheel carrier, numeral 26 identifies planetary gear wheels of a stepped design (not a shaft) and numeral 22 identifies a pinion on the input shaft 23 (see column 2, lines 33 - 44). No evidence of numeral 22 was found in the portion of Kronogard cited by the Office Action. Regardless of the possible error in designating parts, the schematic diagram of Figure 1 and description at column 2, lines 38 - 42 teaches that, "input shaft 23 is connected to the planetary gear wheel carrier 24 of the planetary gearing. This shaft (23) will further drive the auxiliaries of the plant, i.e. fuel pump, electric generator and so forth, generally denoted by 25."

The remarks presented with regard to Stockton also apply to Kronogard; that is, the auxiliaries 25 are driven using a drive shaft 23 that is the output shaft (similar to the output shaft (9) of the present invention) from the planetary gearbox.

As explained above, an output shaft from a planetary gearbox is different from the planet wheel shaft (10) that provides subject matter for claims 1 and 8 of the present invention. Therefore, Kronogard does not teach either a "fixed planet carrier" or an auxiliary unit connected to a "planet wheel shaft."

For these reasons, Applicant requests reconsideration and withdrawal of the rejection of claims 1 and 8 under 35 U.S.C. §102(b).

Rejection of claims 2, 3, 6 and 7 of the present invention should likewise be withdrawn because these claims depend from claim 1, which has been shown to be allowable over the reference of Kronogard.

The Office Action further rejected claims 1, 2 and 6 - 8 under 35 U.S.C. §102(b) as being anticipated by SU 1815368A1 (Bagenskii). As in the cases of Stockton and Kronogard, it appears that the Action mistakes an output shaft for the planet wheel shaft recited in claims 1 and 8 of the present invention.

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Teachings from the Russian reference include a method for frequency control of a gas turbine driven generator. Speed (i.e. rate of revolution) reduction between the gas turbine and the generator occurs through the planetary gear box to the output shaft. Rotation of the output shaft depends upon the characteristics of the planetary gearbox wherein the planetary gear wheel carrier rotates as part of the mechanism that drives the output shaft. The carrier is not fixed as required by claims 1 and 8 of the present invention. Variation of the revolution rate of the output shaft can be controlled by rotating the ring gear by means of a separate drive including an electric motor and a worm gear.

Applicant respectfully asserts that Bagenskii (SU 1815368A1) presents teachings similar to those of Stockton and Kronogard and therefore, for the same reasons, fail to anticipate claims 1 and 8 of the present application. Request is respectfully made for reconsideration and withdrawal of the rejection of claims 1 and 8 under 35 U.S.C. §102(b).

Rejection of claims 2, 6 and 7 of the present invention should likewise be withdrawn because these claims depend from claim 1, which has been shown to be allowable over the reference of Bagenskii.

REJECTION UNDER 35 U.S.C. § 103(a):

It is respectfully asserted that Strockton, Kronogard and Bagenskii similarly fail to render the claims obvious for the same reasons outlined above and reconsideration and withdrawal of the rejection of claims claim 3 - 6 under 35 U.S.C. §103(a) is requested.

Having made an earnest attempt to respond to all of the points included in the Office Action, Applicant requests reconsideration of the application and notification of allowance of claims 1 - 8 in the next paper from the Office.

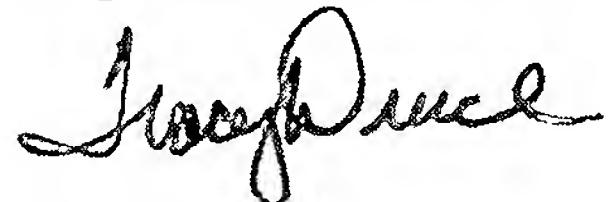
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The undersigned representative hereby requests any additional extension of time that may be deemed necessary to further the prosecution of this application, the same being authorized to be charged to Deposit Account No. 14-1437, Order No. 7589.0139. PCUS00.

Still further, the undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment to Deposit Account No. 14-1437, Order No. 7589. 0139. PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner is requested to directly contact the undersigned by phone to further the discussion.

Respectfully submitted,



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